

CLAIMS

1. Cosmetic and/or dermatological composition intended for treating keratin fibres, in particular human keratin fibres and more particularly human hair, comprising, in a support which is suitable for keratin fibres:
- (a) at least one enzyme of 2-electron oxidoreductase type in the presence of at least one donor for the said enzyme,
- (b) at least one anionic surfactant chosen from the group consisting of:
- (i) acylisethionates;
  - (ii) acyltaurates;
  - (iii) acylsarcosinates;
  - (iv) acylglutamates;
  - (v) polyoxyalkylenated carboxylic ether acids and salts thereof;
  - (vi) fatty glucamide sulphates;
  - (vii) alkylgalactoside uronates;
  - (viii) anionic derivatives of alkylpolyglucoside;
  - (ix) mixtures thereof.
2. Composition according to Claim 1, characterized in that the 2-electron oxidoreductase is chosen from uricases of animal, microbiological or biotechnological origin.
3. Composition according to Claim 1 or 2, characterized in that the 2-electron oxidoreductase(s) represent(s) from 0.01 to 20% by weight relative to the total weight of the composition.
4. Composition according to Claim 3, characterized in that the 2-electron oxidoreductase(s) represent(s) from 0.1 to 5% by weight relative to the total weight of the composition.
5. Composition according to Claim 2, characterized in that the donor (or substrate) for the said 2-electron oxidoreductase is chosen from uric acid and its salts.
6. Composition according to any one of the

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preceding claims, characterized in that the donor(s) represent(s) from 0.01 to 20% by weight relative to the total weight of the composition.

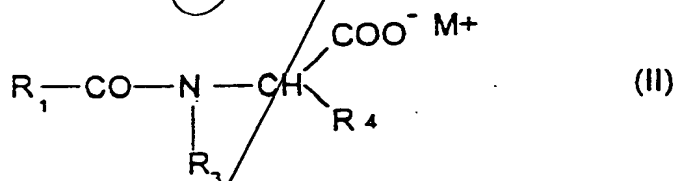
7. Composition according to Claim 6, characterized in that the donor(s) represent(s) from 0.1 to 5% by weight relative to the total weight of the composition.

8. Composition according to any one of Claims 1 to 7, characterized in that the acylisethionates and acyltaurates correspond to the following general structure:



in which R denotes a group  $\text{R}_1\text{COO}$  or a group  $\text{R}_1\text{CONR}_2$  with  $\text{R}_1$  denoting a linear or branched, saturated or unsaturated  $\text{C}_8\text{-C}_{30}$  aliphatic group, and  $\text{R}_2$  denotes hydrogen or a  $\text{C}_1\text{-C}_4$  alkyl radical and M denotes H, ammonium, Na or K or an organic amine residue.

9. Composition according to any one of Claims 1 to 7, characterized in that the acylsarcosinates and the acylglutamates correspond to the following general structure:

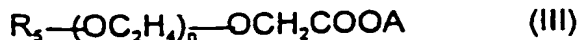


in which  $\text{R}_1$  and M have the same meanings indicated in Claim 8;  $\text{R}_3$  denotes  $\text{CH}_3$  and  $\text{R}_4$  denotes hydrogen, or alternatively

$\text{R}_3$  denotes hydrogen and  $\text{R}_4$  denotes  $\text{CH}_2\text{CH}_2\text{COO}^- \text{M}^+$ .

10. Composition according to any one of Claims 1 to 7, characterized in that the polyoxyalkylenated carboxylic ether acids and the salts thereof contain from 2 to 50 ethylene oxide groups.

11. Composition according to Claim 10, in which the anionic surfactants of the polyoxyalkylenated carboxylic ether acid or salt type correspond to formula (III) below:



in which:

$R_3$  denotes an alkyl or alkylaryl group and  $n$  is an integer or decimal number (average value) which can range from 2 to 24 and preferably from 3 to 10, the alkyl radical containing between 6 and 20 carbon atoms approximately, and aryl preferably denoting phenyl,

$A$  denotes  $H$ , ammonium,  $Na$ ,  $K$ ,  $Li$ ,  $Mg$  or a monoethanolamine or triethanolamine residue.

12. Composition according to any one of Claims 1 to 7, characterized in that the anionic alkylpolyglucoside derivatives are chosen from

- alkylpolyglucoside sulphates and sulphonates, or mixtures thereof;
- alkylpolyglucoside ether carboxylates;
- alkylpolyglucoside sulphosuccinates;
- alkylpolyglucoside isethionates;
- alkylpolyglucoside phosphates.

13. Composition according to any one of Claims 1 to 12, characterized in that the concentration of anionic surfactant ranges from 0.1% to 20% by weight relative to the total weight of the composition, and preferably between 0.5 and 15%.

14. Ready-to-use composition according to any one of Claims 1 to 13, for the oxidation dyeing of keratin fibres, and in particular human keratin fibres such as the hair, of the type also comprising, in a medium which is suitable for keratin fibres, at least one oxidation base and, optionally, one or more couplers.

15. Composition according to Claim 14, characterized in that the oxidation bases are chosen from para-phenylenediamines, double bases, ortho- or para-aminophenols and heterocyclic bases, as well as the addition salts of these compounds with an acid.

16. Composition according to Claim 14 or 15, characterized in that the oxidation bases are present in concentrations ranging from 0.0005 to 12% by weight relative to the total weight of the composition.

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17. Composition according to any one of Claims 14 to 16, characterized in that the couplers are chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols and heterocyclic couplers, and the addition salts of these compounds with an acid.

18. Composition according to any one of Claims 14 to 17, characterized in that the couplers are present in concentrations ranging from 0.0001 to 10% by weight relative to the total weight of the composition.

19. Composition according to any one of Claims 14 to 18, characterized in that the addition salts with an acid for the oxidation bases and the couplers are chosen from the hydrochlorides, hydrobromides, sulphates, tartrates, lactates and acetates.

20. Composition according to any one of Claims 14 to 19, characterized in that it also contains direct dyes.

21. Composition according to any one of Claims 1 to 20, characterized in that the medium which is suitable for the keratin fibres (or support) consists of water or of a mixture of water and at least one organic solvent.

22. Composition according to Claim 21, characterized in that the organic solvents can be present in proportions preferably ranging from 1 to 40% by weight relative to the total weight of the composition, and even more preferably ranging from 5 to 30% by weight.

23. Composition according to any one of Claims 1 to 22, characterized in that the pH ranges from 5 to 11 and preferably from 6.5 to 10.

24. Composition according to any one of Claims 1 to 23, characterized in that it also contains at least one cosmetic adjuvant used conventionally in compositions for dyeing, permanently reshaping or bleaching the hair, chosen from the group consisting of anionic surfactants other than those defined in the preceding claims, cationic, nonionic, amphoteric or zwitterionic surfactants or mixtures thereof, anionic, cationic, nonionic, amphoteric or zwitterionic polymers or

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mixtures thereof, inorganic or organic thickeners, antioxidants, enzymes other than the 2-electron oxidoreductases, penetration agents, sequestering agents, fragrances, buffers, dispersing agents, conditioners, film-forming agents, preserving agents and opacifiers.

25. Process for dyeing keratin fibres, and in particular human keratin fibres such as the hair, characterized in that at least one ready-to-use dye composition as defined in any one of Claims 14 to 24 is applied to the said fibres, for a period which is sufficient to develop the desired coloration.

26. Process according to Claim 25, characterized in that it includes a first step which consists in separately storing, on the one hand, a composition (A) comprising, in a medium which is suitable for dyeing, at least one oxidation base and optionally at least one coupler as defined in any one of Claims 14 to 19, and, on the other hand, a composition (B) containing, in a medium which is suitable for keratin fibres, at least one enzyme of 2-electron oxidoreductase type in the presence of at least one donor for the said enzyme as defined in any one of the preceding claims, and then in mixing them together at the time of use, before applying this mixture to the keratin fibres; composition (A) or composition (B) containing the anionic surfactant as defined in the preceding claims.

27. Multi-compartment dyeing device or "kit", characterized in that it contains a first compartment containing composition (A) as defined in Claim 26 and a second compartment containing composition (B) as defined in Claim 26.

28. Process for treating keratin fibres, in particular the hair, in order to obtain a permanent reshaping of this hair, in particular in the form of permanent-waved hair, this process comprising the following steps: (i) a reducing composition is applied to the keratin fibres to be treated, the keratin substance being placed under mechanical tension before,

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during or after the said application, (ii) the keratin substance is optionally rinsed, (iii) an oxidizing composition as defined in any one of Claims 1 to 13 and 21 to 24 is applied to the optionally rinsed keratin substance, (iv) the keratin substance is optionally rinsed again.

29. Process for ~~treating~~ keratin fibres, in particular the hair, in order to bleach them, this process comprising the application of an oxidizing composition as defined in any one of Claims 1 to 13 and 21 to 24 optionally containing an auxiliary oxidizing agent and a second step of rinsing the keratin fibres.

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